Delaware Nutrient Management Program

DELAWARE CONSEERVATION PRACTICE STANDARD

NINE ELEMENTS OF A NUTRIENT MANAGEMENT PLAN or ANIMAL WASTE MANAGEMENT PLAN

(Reported by each)

DEFINITION

The nine elements of a Nutrient Management Plan (NMP) or Animal Waste Management Plan (AWMP) are a tool for determining the proper location, design, operation and maintenance of animal feeding production and manure application areas. They spell out Best Management Practices (BMPs) that the farmer can use to prevent a discharge of nutrients from the farm's production or application area.

PURPOSE

To minimize agricultural pollution of surface and ground water by ensuring the farm's NMP or AWMP to give the farmer correct guidance about methods to limit discharges of nutrients into Waters of the State. The nine elements are:

1. Adequate storage capacity for manure, litter and process wastewater.
2. Proper management of dead animals
3. Clean water management
4. Preventing animals from contacting Waters of the State.
5. Proper Chemical Handling.
6. Methods for land application of manure.
7. Implementing conservation practices to control nutrient loss.
8. Testing manure and soil.
9. Proper record keeping.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies to all farms that are covered by a CAFO permit. The nine elements are required by the Delaware State CAFO Regulations.

CONSIDERATIONS

Nutrient Management Plans and Animal Waste Management Plans written for farms covered by a Concentrated Animal Feeding Operation (CAFO) Permit must have certain topics addressed in that plan. See criteria for a list of the nine elements.

CRITERIA

The following nine elements must be included in any NMP or AWMP written for a farm covered by a CAFO Permit:

Criteria Applicable to the production area:

The following elements provide guidance to the farmer for activities in that part of the farm where livestock are raised:

1. Adequate Storage Capacity - The plan must include specific practices to ensure adequate storage capacity to protect water quality, including provisions to ensure proper operation and maintenance of manure storage facilities. The plan should demonstrate

that the farm has enough storage capacity in all of the liquid manure, wastewater, or storm water storage structures to ensure that the farmer is complying with all of the permit requirements. Dry manure storage must occur in production buildings or storage facilities, or otherwise be stored it in such a way as to prevent polluted runoff. Providing adequate storage capacity to ensure compliance with the state of Delaware Nutrient Management Law and Delaware CAFO Regulations. The plan must spell out procedures for proper operation and maintenance of all manure, wastewater, and storm water storage facilities. Storage includes structures like waste ponds, lagoons, tanks (above and below ground), stockpiles, and other structures.

2. Proper Management of Dead Animals - The plan must describe how a farmer handles and disposes of dead animals in a manner that protects water quality. Common practices include composting, incineration, rendering, and landfill disposal. Dead animals must not be buried in pits because they might contaminate groundwater. Dead animals must not be placed in any liquid manure, storm water, or process wastewater storage or treatment system unless the system is designed to handle dead animals.

3. Clean Water Management - Keeping clean storm water away from production areas can reduce the amount of wastewater storage needed. The plan must describe how a farmer designs and implements management practices to divert clean water from the production area, where appropriate. Clean water includes rain falling on the roofs of facilities, runoff from adjacent land, and rainwater from other sources. If p clean water is not prevented from coming into contact with manure or process wastewater, it must be collected it in accordance with permit requirements.

4. Preventing Animals from Contacting Water's of the State - The plan must describe how a farmer makes sure that animals and manure in the production area don't come into direct contact with waters of the United States. Animals in the production area must not be allowed to stand in Waters of the State.

5. Proper Chemical Handling- Unused and waste chemicals and other contaminants must not be allowed to enter waste lagoons or other structures for storing manure, litter, or process wastewater, or any storm water storage or treatment system, unless the system is designed to treat the chemicals and other contaminants. Examples of such chemicals are pesticides, hazardous and toxic chemicals, and petroleum products and by-products.

Criteria applicable to the application area:

1. Methods for Land Application of Manure, Litter and Process Wastewater - If there is any application of manure, litter, or process wastewater from a CAFO to land areas, the plan must describe the site-specific procedures and practices that will be utilized to ensure appropriate agricultural use of the nutrients in these materials. These procedures should address the rates, timing, and method of land application. The plan should describe the site-specific conditions that control the amount of nutrients applied to cropland. Site-specific conditions include the results of nutrient analyses, past nutrient applications, and the soil types in the application fields, as well as terrain, weather conditions, and any other conditions specific to the farm.

Criteria applicable to the production area and application area:

1. Implementing Conservation Practices to Control Nutrient Loss -The plan must describe how you develop and implement BMPs to control the runoff of pollutants from your production and manure land application areas to Waters of the State. These practices may include residue management, conservation crop rotation, grassed waterways, strip cropping, vegetated buffers, riparian buffers, setbacks, terracing, diversions, and other practices that are appropriate for the conditions at your operation.

2. Testing Manure, Process Wastewater and Soil – The plan must describe the specific methods you use to test the nutrient content of manure, litter, and process wastewater. If you apply manure from your CAFO to the land, your plan must also describe the methods you use to test the soil.

3. Methods for Land Application of Manure, Litter and Process Wastewater - If there is any application of manure, litter, or process wastewater from a CAFO to land areas, the plan must describe the site-specific procedures and practices that will be utilized to ensure appropriate agricultural use of the nutrients in these materials. These procedures should address the rates, timing, and method of land application. The plan should describe the site-specific conditions that control the amount of nutrients applied to cropland. Site-specific conditions include the results of nutrient analyses, past nutrient applications, and the soil types in the application fields, as well as terrain, weather conditions, and any other conditions specific to the farm.

4. Keeping Records - The farmer must keep records that document nutrient management practices. The nutrient management plan should describe the kinds of records to be will keep. This will show how a farmer is carrying out and managing the minimum standards described above. Refer to the "record Keeping" technical standard.

PLANS & SPECIFICATIONS

Specifications shall be in keeping with this standard, the Delaware Nutrient Management Law and the Delaware CAFO Regulations. They shall describe the requirements for applying the practice to achieve its intended purpose, and to prevent water quality impairment.

All NMP's or AWMP's must address the sections listed above (in the criteria section) even by indicating they are not applicable due to the absence of cropland on the farm.

REFERENCES

1. Delaware Department of Agriculture. Title 3 of Delaware Code, Chapter 22 Nutrient Management
2. Delaware Department of Agriculture. Delaware Nutrient Management Notes.
3. University of Delaware, 1996. Nutrient Management Handbook.. USDA, Natural Resources Conservation Service, April, 1992. Agricultural Waste Management Field Handbook.